SUPERMARKET BUSINESS

FORMERLY SUPERMARKETING

VOLUME 36/NUMBER 2
FEBRUARY 1981

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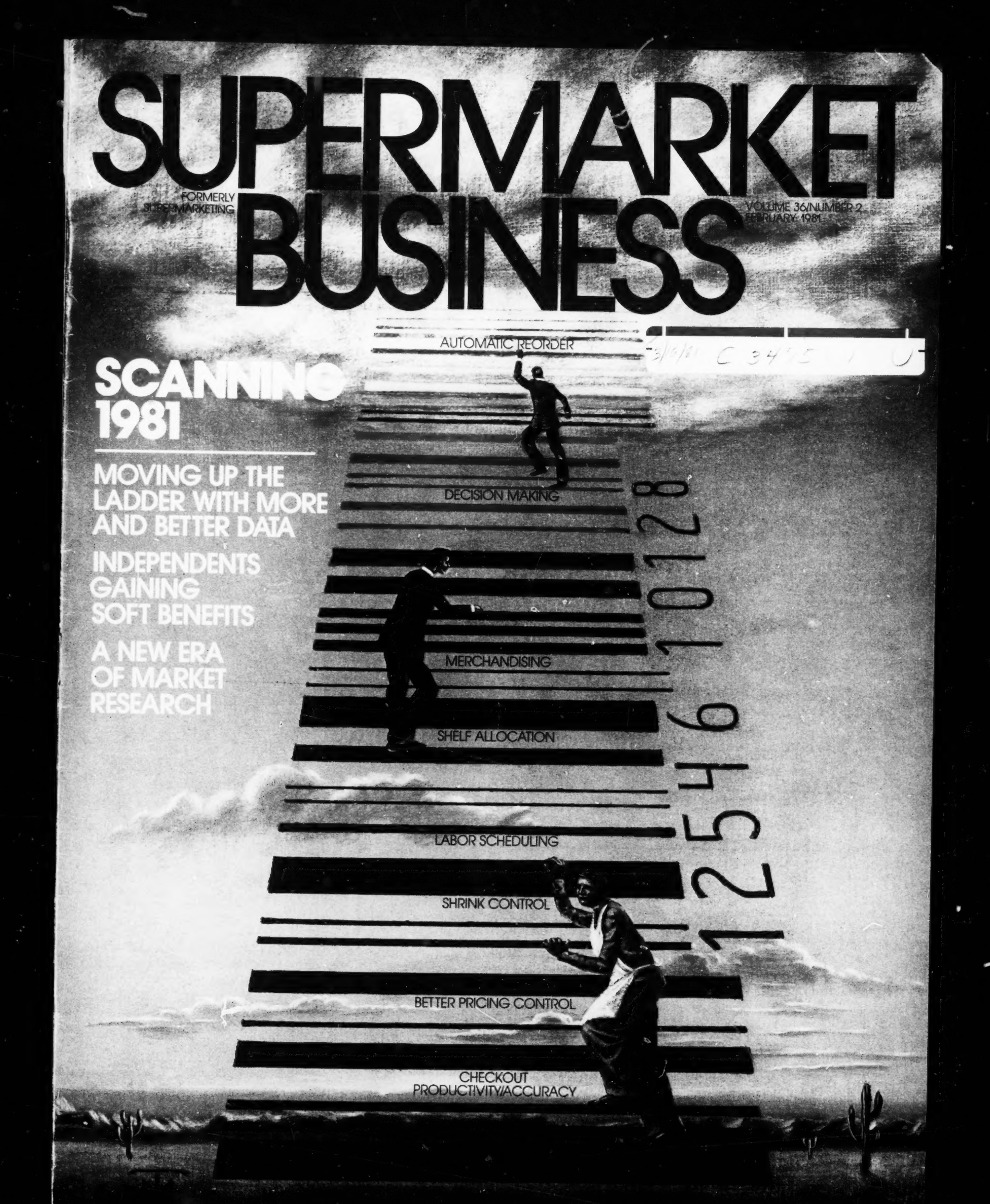
SCANNING 1981

MOVING UP THE LADDER WITH MORE AND BETTER DATA

INDEPENDENTS GAINING SOFT BENEFITS

A NEW ERA OF MARKET RESEARCH



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SCANNING 1981

THE MOMENTUM BUILDS

More than 3,000 supermarkets now use optical scanners and over 5,000 will have units by the end of the year. Operators reap "hard" productivity benefits immediately, but lag in taking advantage of management and marketing potential. New generations of equipment provide greater flexibility.

BY RANDOLPH M. N. McAUSLAND, CONTRIBUTING EDITOR

Fed by equipment improvements and program simplification, growth of optical UPC scanning in supermarkets will match or exceed 1980's 66 percent increase in scanner installations.

Scanning system manufacturers, naturally, are confident that their new generation of components and programs will further accelerate growth. More than 3,000 stores now use scanning, and there will be over 5,000 systems in place by year end.

Equipment has become more compact, flexible, and reliable. Even the technology of the laser scanner has been substantially improved. The simplification of vendor software packages, along with a new group of data processing specialists, can help retailers achieve maximum benefits from a scanning system.

Most of the benefits enjoyed by operators using scanners have been of the hard productivity type. But there are signs of life in the previously lagging management and marketing potential of by-product information. (See page XX.)

Wholesalers back scanning

Encouragement of NAWGA and NARGUS coupled with pressure from independents with scanners has spurred wholesalers to take a more supportive role. Essentially, this means developing a "linkage" system to wire in voluntary, cooperative and independent operators to a "host" computer at the wholesale level.

Through marketing research firms, grocery manufacturers are making extensive use of UPC-based sales data. This goes far beyond simply studying categories and analyzing share of market. Among the more sophisticated uses are advertising effectiveness measurements, in-store merchandising tests and shelf-management program development.

Scanning system manufacturers are bullish about growth prospects this year in spite of the inhibiting effect of sky high interest rates. Money market problems in 1980 did not stop the rate of scanning installations from picking up steadily throughout the year. The first half of 1980 averaged about 125 placements a month, rising to 150 a month over the second half, with highs of 170 and 192 installed in September and October respectively.

Economy retards growth

Forecasts last year indicated that the number of scanning sites would at least double during 1981, but the inability to raise capital has already retarded this growth curve. When the prime rate drops to a more reasonable level, say, 15 percent, suppliers believe pent up demand will be unleashed.

In order for scanning sites to double, monthly installations must average 250 a month. The manufacturing capacity to achieve this is available, but *not* the capital funds. A more probable scenario for 1981 is that monthly installations will average between 170 and 190 sites a month, yielding an increase of 35 to 51 percent over 1980's total. This will represent approximately 15 percent of the industry's total supermarkets.

Continued on page 12

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"Scanning is now in its second phase. In general, the three areas of equipment improvement are:

1. **New equipment is technically superior, with a higher level of accuracy, better depth of field, wide angle readability, and greater flexibility.**
2. **Equipment allows for more data processing program capabilities, simple enough to be done in the store.**
3. **Scaled down units with limited functions are now available, appropriate for smaller stores, from both an operational and financial point of view."**

—Richard E. Shulman, consultant

Upper left, IBM holographic scanner; upper center, National Semiconductor's modular terminal components; upper right, Sweda's Paging and Velocity Keyboard; lower left, NCR on-line miniprocessing computer enters price changes and unmarked items; lower right, DTS SCAN-ALONE or key entry.

Other factors combining with improved equipment and more appropriate and simpler program packages further the belief in accelerated growth of scanning systems. They are:

- Greater retailer understanding of scanning benefits;
- Stepped-up FMI support and education programs;
- Retailer need to slash operating costs and boost productivity;
- Increased manufacturing capabilities and larger supplier field forces.

Through the expanded scanner system manufacturing capacity, any backlog of orders will be met this year, according to several companies. NCR, for example, now has its own manufacturing facilities, reports Vic Canoni, newly appointed industry director of food and drug distribution.

Technology speeds acceptance

More impressive than the manufacturing capabilities is the dramatic change in scanning component technology. The time span from research and development to pilot project to installation has been cut in half in the last 10 years. The technology involves mini-computers, micro-computers, laser technology, overall compactness and simplicity of program implementation.

Most scanning system makers have designed their equipment to interface with the IBM 370 main frame computers which are the most extensively used throughout the grocery industry. Rumors that some manufacturers cannot link to IBM computers are not true.

National Cash Register is now offering its third generation terminal and fourth generation processors and scanners, says Tony Feno, assistant vice president of food and drug distribution.

No planned obsolescence

All this equipment improvement, however, does not mean that previous software becomes obsolete. NCR explains that "migration path engineering" is responsible for this. What the technical term means is that, in short, new equipment is developed that accommodates the software packages that were developed previously. In an industry application like scanning this is vital, and most scanning systems manufacturers now take into account the evolution factors.

Therefore, a retail operator, after gaining the basic productivity benefits associated with installing scanning at all front ends, can safely take the next steps.

These steps might include labor scheduling, direct store delivery control and gross margin reporting. Such add-ons are often called "value added" applications; value can be added to the overall investment in scanning equipment and software.

Roger Lamb, manager, food industry, Data Terminal Systems, says, "Most retailers who put in scanning today enter on a long learning curve. Simply to achieve the hard benefits and maintain price discipline is a challenge. To impose more complex programs at early stages may in fact even retard gaining first stage productivity benefits."

Hard benefits lead soft

Hard benefits are easily understood and are generally associated with increased speed and accuracy of store operations:

1. Improved checker productivity—faster registration, elimination of price checks and corrections. Variable weight items, hard-to-scan or unscannable items erode checker productivity.
2. More efficient pricing—the substitution of shelf pricing for item pricing. Retailers with scanning are moving only gingerly in this direction, either constrained by local laws or customer acceptance. Value to be achieved from this benefit is lagging.
3. Shrink reduction—system implementation of price changes, elimination of checker pricing errors, better control of direct store delivery items, and more accurate sales tax and food stamping recording. In conjunction with checker productivity, this is an immediate benefit. It depends, though, on strict price change discipline, otherwise an error can be compounded thousands of times. Accuracy here goes to the bottom line and improves cash flow.
4. Decreased bookkeeping time—balance out time is reduced, daily store and department sales are quickly accumulated. In short, store accounting functions are accomplished with ease compared to manual methods.

Other programs such as labor management, gross margin analysis, and automatic reordering can be introduced step by step after it's certain that the previous program is running smoothly, Lamb says. "We suggest this block-building approach. We don't believe it's useful to have equipment and programs waiting in the wings," he adds.

Cleaning up the act

While building a scanning program, retailers have had to deal with physical problems associated with the equipment. These problems, too, are being overcome.

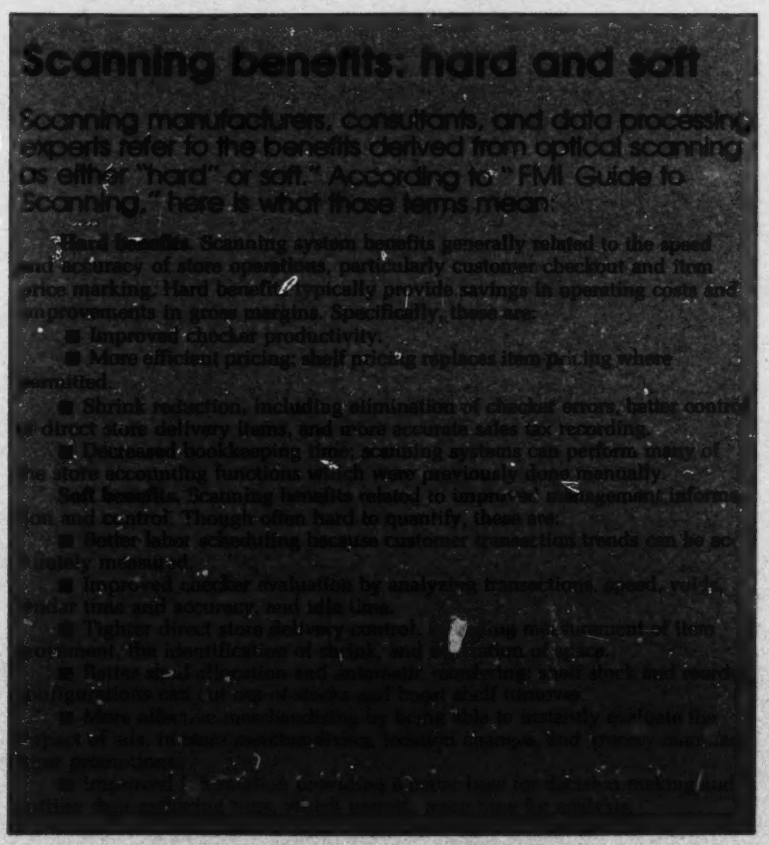
The window through which the laser beam reads the UPC symbol has been a problem. Not only can these windows get dirty, they pick up grease, wax and ink, and get scratched by glass. Because of compensating abilities built into the scanners, a little dirt and a few scratches will not cause the scanner to reject an item. But build-up of a lot of gunk will. Replacing the glass is simple, but not the ideal answer.

Several solutions have been developed and are available with the new generations of equipment.

NCR has covered the glass with a hard plastic plate to eliminate the scratching problem. IBM has turned to a scratch-resistant glass, and other vendors have made similar improvements. Nevertheless, when it comes to scanning, cleanliness is next to godliness—yet another discipline imposed by the systems.

The basic power of the laser scanners has been enhanced. This means 180° readability and a depth of field (or depth of focus) exceeding four inches and reaching to nearly six inches effectively. Both advances in technology make the checker's job simpler, making flexible packages easier to scan and reducing the second and third pass routine.

The most remarkable development is the holographic laser scanner introduced recently by IBM. It reads a full 360°—all the way around a package, a


Scanning benefits: hard and soft
Scanning manufacturers, consultants, and data processing experts refer to the benefits derived from optical scanning as either "hard" or soft." According to "FMI Guide to Scanning," here is what those terms mean:

How to learn more about scanning

Here are the information sources for learning more about optical scanning:

- The best overview is the Food Marketing Institute's "Guide to Scanning," prepared by Booz, Allen & Hamilton, and financed by a grant from Thomas J. Lipton. Copies are $5.00 from Research Division, Food Marketing Institute, 1750 K Street NW, Washington, DC 20006.
- For information on FMI's series of seminars on scanning (held in Chicago), contact Bernie Murphy, Director of Education, FMI, same address.

The major manufacturers of scanning systems are:

- Data Cash Systems, Inc., Box 5689, Clearwater, FL 33518.
- Data Terminal Systems, Inc., 124 Acton Street, Maynard, MA 01754.
- International Business Machines (IBM), 1133 Westchester Avenue, White Plains, NY 10604.
- National Cash Register Co., Main & K Streets, Bldg. 26, Dayton, OH 45479.
- Sweda International, Inc., 34 Maple Avenue, Pine Brook, NJ 07058.
- TEC America, Inc., TEC Supermarket Systems, 19250 Van Ness Avenue, Torrance, CA 90510.
- Vidac, 1054 Shary Circle, Concord, CA 94518.

technique that will further speed front-end work and accuracy. (Holography produces an image by wavefront reconstruction, using lasers to record the diffraction pattern from three dimensional objects.)

Advances in scanner technologies, of course, solve many of the events that erode a system's efficiency, but even a "perfect" scanner cannot overcome every problem.

Random-weight items, uncoded and unauthorized products, specials, out-of-specification printing of bar codes and large products all represent a problem of one kind or another that rob scanning of its full benefits.

Lingering problems

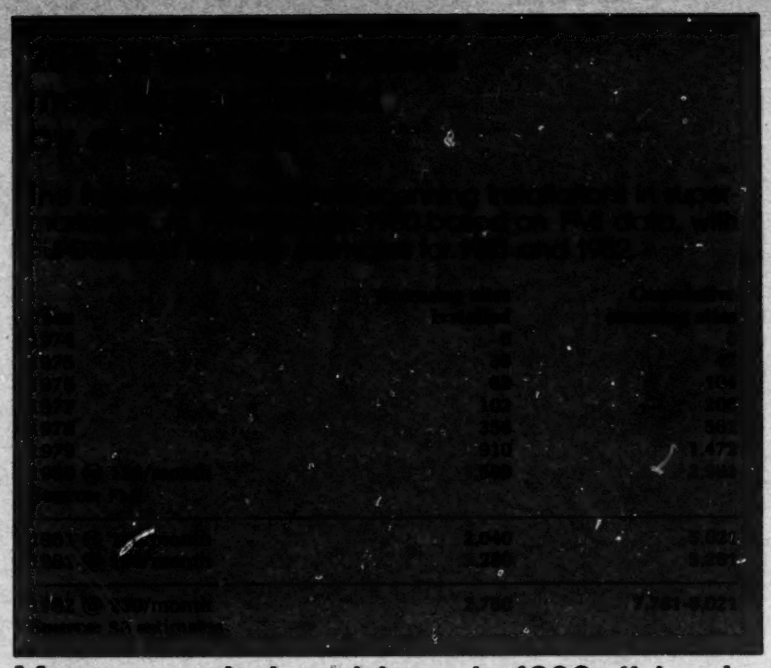
Produce is an area of controversy, and is likely to remain one. Consultants such as Richard Shulman insist that for scanning to truly succeed, all produce must be prepackaged and labeled with the UPC code. Because scanning is an automated system, this is a reasonable request. Many fine retailers, however, swear by bulk produce; in competitive markets, a superior produce program can be a vital traffic-building point of difference. An operator does not have to give this up to scan.

New scale technologies have been integrated into scanning operations to make it as simple and as fast as possible for checkers to weigh and punch in random-weight items.

Several scanning system vendors have short-cuts available—methods that reduce the number of digits the checker must punch for "exception" items.

Sweda's Paging and Velocity Keyboard is one. Essentially a matrix that fits over the keyboard, it eliminates the need to deal with the full set of keys. Composed of two or three pages, the attachment is flipped to the appropriate page (say, for weight items, weekly specials, or hard-to-scan products) and the checker need only punch one key to input the entire code, an efficient way to reduce keypunch errors and speed operations.

Inroads are also being made toward integrating a direct store deliver system for receiving, verification, invoicing and pricing with optical scanning. Guidelines for standardized information will be distributed, but it is up to the DSD vendors to implement the programs, and a little encouragement from retailers may help.



Money market problems in 1980 did not stop the rate of scanning installations from picking up steadily.

According to Ric Dunbar, manager, marketing support, Data Cash Systems, "Because many chains will have scanning systems in place this year, the pressure is on wholesalers to develop linkage services to their retailers. Most equipment and systems suppliers are working with software firms to develop communications systems that will effect an interface between the wholesaler and its independent, voluntary or co-operative members."

The use of a hand-held wand scanner at the back door is one control tool. In general, it has been found that DSD items represent the most common disruption of what must be strict pricing disciplines. Trouble, in short, sneaks in the back door. The biggest headaches are price changes without notification and unauthorized items not stored in the price file.

A good technique is to employ a wand scanner to check samples from every delivery for price; naturally, items not in the store file are caught *before* they roll onto the selling floor, and from there go on to snag the front-end scanners.

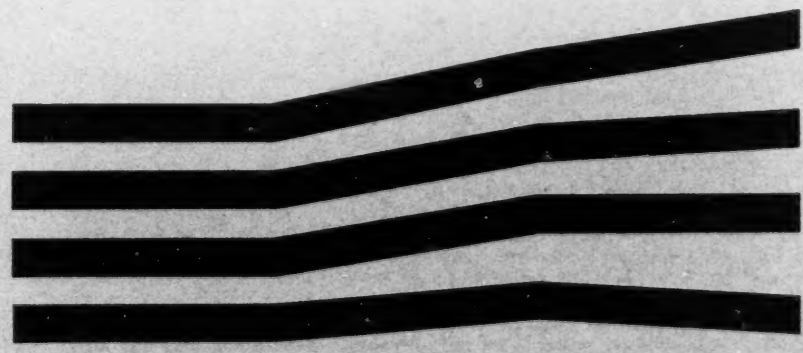
With the new generations of simplified, low-cost wand scanners and terminals, such a control system can be a cost-effective one. ■

Fact 1:

Low calorie is the fastest growing beer segment.

Beer Segments
% increase/decrease in share
May-June 1979 vs May-June 1980*

Share growth of packaged beer segments shown in 11 Coors markets combined.



Low Calorie +7%

Popular – 6%

Premium – no growth

Super Premium/Imported – no growth

*Leading Market Research Company.

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